**U.S. Department of the Interior**
**Bureau of Land Management**
**White River Field Office**
**73544 Hwy 64**
**Meeker, CO 81641**

# ENVIRONMENTAL ASSESSMENT

**NUMBER**: CO-110-2006-002-EA

**CASEFILE/PROJECT NUMBER** (optional): COD-035705(G1, G2, G3, G4, G6)
COD-035729(G5, G7, G8, G9)

**PROJECT NAME**: 9APDs for wells PCU T35X-2G1, G2, G3, G4, G5, G6, G7, G8, & G9

**LEGAL DESCRIPTION**: T.2S., R.97W., 6th P.M., Sec 2 NESW (all on same surface location)

**APPLICANT**: ExxonMobil Oil Corporation

**ISSUES AND CONCERNS** (optional): *All nine wells would be located on the same well pad.*

**DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES**:

***Background/Introduction***: The proposed action would overlap an existing well pad (#45-2G) that had the well bore plugged but had not been recontoured. All production equipment has not been removed from the well pad. On site was conducted on 6/23/05.

**Proposed Action**: The applicant proposes to drill nine (9) wells from an abandoned well pad by reconstructing and expanding the old location. An additional 0.1 mile (40'right of way (ROW) x 528') of new access road and 450' (40' ROW) of reroute of existing road would be constructed (total acres=0.9). The well pad size would be approximately 450' x 530' (5.5 ac.) with an adjacent production pad along the access road approximately 80'x 200' (0.37 ac.). Two steel pipelines (6"gas and 3"water) would be buried for approximately 5120' in distance (ROW approx. 40') following access road and tie in to existing pipeline from well T62X-11G to trunk line. Both pipelines would share the same ROW. Approximate surface disturbance of the pipelines would be 4.7 acres. Total acres of new surface disturbance on BLM would be approximately 11.47.

The maximum grade of the access road would not exceed 4%. Turnouts would be required for the access road as needed. Corrugated metal pipes (CMPs) would be placed as needed. Surfacing material would be hauled over existing roads from a source not yet identified. No

cattleguards would be required for this location. The proposed access road would be flagged prior to construction.

Water would either be piped with surface lines or trucked over access road. Remaining clear water would be pumped or hauled forward from previous wells after surface casing is set.

Drill cuttings would be disposed of in the reserve or dry cutting pit and buried with at least 4' of cover. Exploration and production (E& P) waste would be handled as defined, prescribed or permitted by the Colorado Oil and Gas Conservation Commission (COGCC) Rules. Any drilling mud with greater than 1% diesel net weight would be hauled to a proper disposal site. An alternative to hauling would be solidification in the pit with method approved by the COGCC.

Trash, waste paper, and other garbage would be contained in a fenced trash cage and hauled to a commercial disposal site. Salts that are not used in the drilling fluid would be removed from the location by the supplier. Chemicals that are not used in the drilling and completion of the well would be removed from the location by the supplier. Sewage from trailers on location and human wastes would be in self-contained chemical toilets or holding tanks and would be disposed of properly.

Mud pits in the active circulation system would be steel pits. The reserve pit may be lined with an impermeable liner if needed to hold fluid. Drilling fluids would be allowed to evaporate in the reserve pit until the pit is dry enough for back filling. Water produced during tests would be disposed of in the reserve pit as per Onshore Order #7. Oil produced during tests would be stored in test tanks until sold, at which time it would be hauled from the site. In the event fluids in the pit do not evaporate in a reasonable time, the fluids would be hauled to a state approved disposal site or would be mechanically evaporated. The reserve pit would be fenced on three sides with 4 strand barbed wire during drilling and on the fourth side after the rig is released.

No camps, airstrips, etc. would be constructed. If snow is encountered, the snow would be removed before construction begins or the topsoil is disturbed, and placed downhill of the proposed topsoil stockpile. All available topsoil would be stripped on well locations and access roads, prior to construction, and stockpiled for use in reclamation of the site. Topsoil stockpile would be clearly segregated from any spoil pile and placed where it can be easily retrieved without impact to natural features.

Upon completion of the operation and disposal of trash and debris as prescribed above, pits would be backfilled and recontoured as soon as practical after they have dried. Unneeded disturbed surfaces remaining after completion to the surface production facilities would be shaped to match the surrounding terrain and revegetated as specified by the BLM.

When the well is abandoned, ExxonMobil would rehabilitate the road and location as per BLM specifications. Revegetation of the drill pad would comply with BLM specifications.
An archaeological investigation and report will be prepared for the proposed access road and well site by Archaeological-Environmental Research Corporation and submitted to the BLM.

Completed wells on this pad will continue to produce during drilling operations per Exxon Mobil Simultaneous Operations guidelines.

Approximate date proposed action work would start is 01/11/06.

**No Action Alternative:** No environmental impacts would occur.

**ALTERNATIVES CONSIDERED BUT NOT CARRIED FORWARD**: None

**NEED FOR THE ACTION**: To respond to the request by the applicant to construct access road, well pad, and install pipelines.

**PLAN CONFORMANCE REVIEW**: The Proposed Action is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM 1617.3):

Name of Plan: White River Record of Decision and Approved Resource Management Plan (ROD/RMP).

Date Approved: July 1, 1997

Decision Number/Page: Page 2-5

Decision Language: "Make federal oil and gas resources available for leasing and development in a manner that provides reasonable protection for other resource values."

**AFFECTED ENVIRONMENT / ENVIRONMENTAL CONSEQUENCES / MITIGATION MEASURES**:

**STANDARDS FOR PUBLIC LAND HEALTH**: In January 1997, Colorado Bureau of Land Management (BLM) approved the Standards for Public Land Health. These standards cover upland soils, riparian systems, plant and animal communities, threatened and endangered species, and water quality. Standards describe conditions needed to sustain public land health and relate to all uses of the public lands. Because a standard exists for these five categories, a finding must be made for each of them in an environmental analysis. These findings are located in specific elements listed below:

**CRITICAL ELEMENTS**

**AIR QUALITY**

*Affected Environment*: The entire White River Resource area has been classified as either attainment or unclassified for all pollutants, and most of the area has been designated prevention of significant deterioration (PSD) class II. The proposed action is not located within a thirty mile radius of any special designation air sheds or non-attainment areas.

*Environmental Consequences of the Proposed Action:* Exhaust produced from production facilities and heavy equipment associated with the proposed actions combined with the increasing number of fluid mining activities in the Piceance Creek Basin will have cumulative impacts detrimental to local air quality. However, following completion of the proposed actions, air quality should return to near pre-construction levels in this location. During dry and windy periods, air quality may be compromised due to increased levels of fugitive particulate matter which is defined as fugitive emissions of particulate matter that are the direct or proximate result of man's activities (e.g. Materials left by man exposed to the wind or later acted upon by another force as the wind or automobile traffic, or particulate matter being thrown into the atmosphere by the operation of a heavy equipment). However, construction operations should not greatly compromise National Ambient Air Quality Standards (NAAQS) for particulate mater which calls for a maximum 24-hour average to be less than or equal to 150 $\mu g/m^3$. In addition, following successful reclamation, particulate mater is also likely to return to pre-construction levels. Overall, the proposed action by itself should not greatly compromise National Ambient Air Quality Standards (NAAQS) on an hourly or daily basis.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation*: The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter, vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing the roadway with gravels will also help mitigate production of fugitive particulate matter.

To reduce production of fugitive particulate matter originating from well pads and associated stockpiled soils (long term storage) interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilized on slopes exceeding 5%.

If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with the appropriated seed mixture. Furthermore, soils stockpiled for short durations (e.g. during road/pipeline construction/maintenance) will be wetted during dry periods to reduce production of fugitive particulate matter.

## CULTURAL RESOURCES

*Affected Environment*: The proposed pad location has been inventoried at the Class III (100% pedestrian) level (Metcalf 2005, Compliance Dated 10/21/2005) with no cultural resources identified in the inventoried area.

*Environmental Consequences of the Proposed Action:* The proposed action will not directly affect any known cultural resources.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to cultural resources under the No Action Alternative.

*Mitigation*: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

## INVASIVE, NON-NATIVE SPECIES

*Affected Environment*: Noxious weeds known to occur in the project area include houndstongue (*Cynoglossum officinale*), mullein (*Verbascum thapsus*), Russian, spotted and diffuse knapweeds (*Centaurea sp*), bull thistle (Cirsium vulgare), yellow toadflax (*Linaria vulgaris*) and black henbane (*Hyoscyamus niger*). The invasive alien annual cheatgrass occurs

throughout the project area in association with unrevegetated earthen disturbance along roads, wells, and pipelines.

*Environmental Consequences of the Proposed Action:* The proposed action will create about 12 acres of new earthen disturbance, which if it is not revegetated with desirable species and /or treated with herbicides to eradicate noxious weeds/ cheatgrass, will be invaded and dominated by noxious weeds/cheatgrass, increasing the potential for fire and the consequent further proliferation of cheatgrass. Noxious weeds could also spread from the project sites to surrounding native rangelands resulting in a long term negative impact. The resulting proliferation of noxious weeds/cheatgrass will perpetuate a downward cycle of environmental degradation that will be largely irreversible. The will be a low likelihood of long term negative impact if the proposed mitigation is properly implemented.

*Environmental Consequences of the No Action Alternative:* There will be no change from the present situation.

*Mitigation*: The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

## MIGRATORY BIRDS

*Affected Environment*: There are a number of migratory birds that fulfill nesting functions in the big sagebrush and pinyon-juniper types traversed by this project during the months of May, June, and July, including several species identified as having higher conservation interest by the Rocky Mountain Bird Observatory, Partners in Flight program (i.e., Brewer's sparrow, gray flycatcher, black-throated gray warbler, juniper titmouse). Because the project area is situated immediately adjacent to existing forms of disturbance and/or composed of sagebrush communities encroached with pinyon-juniper regeneration (i.e., portions of the pipeline corridor), neither sagebrush nor pinyon-juniper associates attain strong abundance or full representation.

Although this high plateau area has no open water or wetland areas that support or attract waterfowl use, the development of reserve pits that contain drilling fluids have attracted waterfowl use, at least during the migratory period (i.e., local records: mid-March through late May; mid-October through late November) and likely have similar attraction for migratory and resident passerines.

*Environmental Consequences of the Proposed Action:* Although the well access road, pipeline, and pad would directly affect about 7 acres of woodland habitat, these features incorporate an abandoned well pad or lie immediately adjacent to existing road and pipeline corridors. These woodland and sagebrush habitats in close proximity to existing roads and utility corridors tend to support low breeding bird densities and do not represent favorable nesting habitat for woodland raptors. Construction and drilling associated with this well is scheduled to commence in the winter of 2006 and is expected to continue for many months. This

period would begin prior to, but likely extend through the migratory bird nesting season. The proposed action is not expected to directly disrupt any migratory bird nest effort and ongoing well development would deter intolerant birds from initiating nests in nearby habitats.

It has recently been brought to this Field Office's attention that migratory waterfowl have contacted drilling or frac fluids stored in reserve pits during or after completion operations and are suffering mortality in violation of the Migratory Bird Treaty Act. The extent and nature of the problem is not well defined, but is being actively investigated by the federal agencies and the companies. Until the vectors of mortality are better understood, management measures must be conservative and relegated to preventing bird contact with frac and drilling fluids that may pose a problem.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have potential to disrupt the breeding activities of migratory birds or result in direct bird mortality.

*Mitigation*: It will be the responsibility of the operator to effectively preclude migratory bird access to, or contact with, reserve pit contents that possess toxic properties (i.e., through ingestion or exposure) or have potential to compromise the water-repellent properties of birds' plumage. Exclusion methods may include netting, the use of "bird-balls", or other alternative methods that effectively eliminate migratory bird contact with pit contents and meet BLM's approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to eliminate migratory bird use two weeks prior to initiation of drilling activities. The BLM-approved method will be applied within 24 hours after drilling activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to a White River Field Office Petroleum Engineer Technician immediately.

**THREATENED, ENDANGERED, AND SENSITIVE ANIMAL SPECIES** (includes a finding on Standard 4)

*Affected Environment*: There are no animals listed, proposed, or candidate to the Endangered Species Act, nor animals considered sensitive by the BLM, that are known to inhabit or derive important benefit from the areas potentially influenced by the proposed action.

*Environmental Consequences of the Proposed Action:* Pad and road construction and drilling/completion operations would have no conceivable influence on special status species or associated habitat.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have potential to influence special status species or associated habitats.

*Mitigation*: None.

*Finding on the Public Land Health Standard for Threatened & Endangered species*: The proposed and no-action alternatives would have no influence on populations or habitats of

animals associated with the Endangered Species Act or BLM sensitive species and, as such, would have no influence on the status of applicable land health standards.

**WASTES, HAZARDOUS OR SOLID**

*Affected Environment*: There are no known hazardous or other solid wastes on the subject lands. No hazardous materials are known to have been used, stored or disposed of at sites included in the project area.

*Environmental Consequences of the Proposed Action:* No listed or extremely hazardous materials in excess of threshold quantities are proposed for use in this project. While commercial preparations of fuels and lubricants proposed for use may contain some hazardous constituents, they would be stored, used and transported in a manner consistent with applicable laws, and the generation of hazardous wastes would not be anticipated. Solid wastes would be properly disposed of.

*Environmental Consequences of the No Action Alternative:* No hazardous or other solid wastes would be generated under the no-action alternative.

*Mitigation*: The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

**WATER QUALITY, SURFACE AND GROUND** (includes a finding on Standard 5)

*Affected Environment*: Surface Water: The proposed action is located on the drainage divide between the Dudley Gulch North watershed (to the west) and Hannahan Gulch watershed (to the east). Both drainages are ephemeral tributaries to Piceance Creek which is a tributary to the White River. Both catchment areas are situated within stream segment 16 of the White River Basin. A review of the Colorado's 1989 Nonpoint Source Assessment Report (plus updates), the 305(b) report, the 303(d) list, the White River Resource Area RMP, and the Unified Watershed Assessment was done to see if any water quality concerns have been identified. It should be noted that the White River from Piceance Creek to Douglas Creek has been listed on the states monitoring and evaluation list (M&E list) for sediment impairments. All surface disturbing activities in Dudley Gulch North and Hannahan Gulch catchment areas will directly influence sedimentation rates to Piceance Creek, White River, and eventually the Colorado River.

Stream segment 16 of the White River Basin has been designated “Use Protected”. The antidegredation review requirements in the Antidegredation Rule are not applicable to waters designated use-protected. For those waters, only the protection specified in each reach will apply. The state has classified segment 16 as being beneficial for the following uses: Warm aquatic life 2, Recreation 2, and Agriculture. For stream segment 16 minimum standards for four parameters are listed as follows: dissolved oxygen = 5.0 mg/l, pH = 6.5 - 9.0, Fecal Coliform = 2000/100 ml, and 630/100 ml E. coli.

Ground Water: A review of the US Geological Survey Ground Water Atlas of the United States (Topper et al., 2003) was done to assess ground water resources at the location of the proposed action. The proposed action is located in the Piceance Creek structural basin. Primary hydrogeologic units within the Piceance Basin are listed in the following table.

| Summary of Hydrogeologic Units | | | | | | |
|---|---|---|---|---|---|---|
| **Hydrogeologic Unit** | **Stratigraphic Unit** | **Physical Description** | **Thickness** | **Hydraulic Conductivity** | **Yield** | **TDS** |
| | | | **(ft)** | **(ft/day)** | **(gpm)** | **mg/L** |
| **Upper Piceance Basin aquifer** | Uinta Formation | sandstone, fractured siltstone, fractured marlstone | 0 – 1,400 | <0.2 to >1.6 | 1- 900 | 500-1,000 |
| Mahogany confining unit | Green River Formation | dolomitic marlstone and shale | 500-1,800 | <0.01 | <25 | NL |
| **Lower Piceance Basin aquifer** | Green River Formation | shale, fine-grained sandstone, fractured marlstone | 0 – 1,870 | <0.1 to >1.2 | 1-1,000 | 1,000-10,000 |
| Basal confining unit | Green River Formation, Wasatch Formation | claystone, siltstone, clay rich oil shale, marlstone, channel sandstone | 0-6,800 | <0.01 | <10-100 | NL |
| **Fort Union aquifer** | Fort Union Formation | Coarse-grained sandstone | Very thin | NL | NL | NL |
| **Mesaverde aquifer** | Mesaverde Group | sandstone interbedded shale and coal | Averages 3,000 | 0.0001-1.0 | NL | NL |
| Mancos confining unit | Mancos Shale | mostly shale but Frontier Sandstone may be local aquifer | >7,000 | NL | NL | NL |
| Abbreviations: ft = feet, approx = approximate, avg = average, gpm = gallons per minute, mg = milligrams, L = liters, and NL = not listed. | | | | | | |

Table information from Topper et al. (2003)

The Piceance Creek drainage basins upper and lower aquifers are separated by the semi-confining Mahogany Zone. Information presented in Topper et al. (2003) indicates the following approximate depths to potentiometric surfaces within hydrogeologic units: upper Piceance basin aquifer 600 feet, lower Piceance basin aquifer 700 feet, and Mesaverde aquifer 400 feet (based on a surface elevation of 7,400 feet). Water well data from the Colorado Division of Water Resources (Topper et al., 2003) indicated that in central Rio Blanco County water wells are uncommon. Based on existing water well data near the project area, total concentration of dissolved constituents in the upper and lower aquifers is generally lower than 1000 milligrams per liter.

*Environmental Consequences of the Proposed Action:* Surface Water: New surface disturbing activities associated with the proposed actions will increased soil exposure to erosional processes. New surface disturbance will destroy existing vegetation and increase compaction. Increased compaction combined with reduced vegetation will further decrease infiltration rates and elevate erosive potential due to runoff (overland flows) and raindrop impact during storm events.

Given the moderately rapid permeability rates of the affected soils, leaks or spills of environmentally unfriendly substances are likely to be carried down gradient in local ground water. Contaminants being transported by local ground water may discharge into surface waters of ephemeral tributaries during wet periods, be transported down gradient and potentially deteriorate surface water quality in lower portions of the watershed.

Ground Water: In the event of any leaks or spills, local ground water may be adversely impacted as runoff could carry contaminates down gradient to alluvial aquifers such as the Piceance Creek alluvium. Potential for ground water contamination increases if fractures in confining units are formed. Hydraulic conductivity increases exponentially along fracture zones resulting in rapid transport of fluids/contaminants in these areas. The upper and lower Piceance Basin aquifers have differing water qualities, mixing will degrade water quality in the upper aquifer which is generally of better quality. Any produced water from the Mesaverde Formation could adversely impact surface water resources if the water is not properly disposed of.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation*: The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase I Storm Water Permit). The operator will also be required to provide the BLM with documentation that all required permits were obtained.

Surface Water: All surface disturbing activities will strictly adhere to "Gold Book" surface operating standards for oil and gas exploration and development (copies of the "Gold Book" can be obtained at the WRFO). CMPs are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on slopes less than 3%. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. Furthermore, following abandonment of the well pad all disturbed surfaces will be recontoured to the original grade promptly covered with a sufficient amount of woody debris (if available) and seeded with the appropriate seed mixture as outlined in the vegetation section of this document.

To mitigate surface erosion at the well pad, interim reclamation will be required as outlined in the Air Quality mitigation section above.

Ground Water: Shallow aquifers shall be protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. Any groundwater produced from the Mesaverde Formation will be hauled off and disposed of due to poor water quality and therefore preventing adverse impacts to surface water. Environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested to

intercept such contaminants prior to contacting soils. Furthermore, all pits shall be lined and all wastes associated with construction and drilling will be properly treated and disposed of.

*Finding on the Public Land Health Standard for water quality*: Stream segment 16 of the White River Basin currently meets water quality standards set by the state. Following suggested mitigation measures, water quality in the affected stream segment will be unaffected by the proposed action and continue to meet standards.

**WETLANDS AND RIPARIAN ZONES** (includes a finding on Standard 2)

*Affected Environment*: The closest channel system supporting riparian vegetation is Piceance Creek, which is separated by a minimum 3 miles of ephemeral channel from the proposed action (Dudley Gulch North and Hatch Gulch). This portion of Piceance Creek (and about 7 miles downstream) is private and State-owned and stream function and morphology is heavily modified by irrigation practices (e.g., not strongly represented by obligate forms of riparian vegetation, moderately entrenched/undersized floodplains).

*Environmental Consequences of the Proposed Action:* This ridgeline project is separated from the nearest riparian system by at least 3 miles of ephemeral channel. Pad, pipeline, and road construction would have no direct impact on riparian/wetland resources. With the application of BMPs associated with soil erosion there is no reasonable likelihood that fugitive sediments would have any influence on the function or condition of the Piceance Creek channel or its associated riparian resources.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have any direct or indirect influence on downstream riparian communities.

*Mitigation*: None.

*Finding on the Public Land Health Standard for riparian systems*: Downstream portions of Piceance Creek are private with the nearest BLM-administered reach about 7 miles downstream. These private portions of the creek are stable, but due to the factors listed above, their functional status is generally at-risk. Neither the proposed or no-action alternative would have any effective influence on the function or condition of the Piceance Creek channel, its riparian expression, or its land health status.

**CRITICAL ELEMENTS NOT PRESENT OR NOT AFFECTED**:

No ACEC's, flood plains, prime and unique farmlands, Wilderness, or Wild and Scenic Rivers, threatened, endangered or sensitive plants exist within the area affected by the proposed action. For threatened, endangered and sensitive plant species Public Land Health Standard is not applicable since neither the proposed nor the no-action alternative would have any influence on populations of, or habitats potentially occupied by, special status plants. There are also no

Native American religious or environmental justice concerns associated with the proposed action.

## NON-CRITICAL ELEMENTS

The following elements **must** be addressed due to the involvement of Standards for Public Land Health:

**SOILS** (includes a finding on Standard 1)

*Affected Environment*: The following data is a product of an order III soil survey conducted by the Natural Resources Conservation Service (NRCS) in Rio Blanco County, CO. The following table highlights important soil characteristics. A complete summary of this information can be found at the White River Field Office.

| Soil Number | Soil Name | Slope | Ecological site | Salinity | Run Off | Erosion Potential | Bedrock |
|---|---|---|---|---|---|---|---|
| 70 | Redcreek-Rentsac complex | 5-30% | PJ woodlands/PJ woodlands | <2 | Very high | Moderate to high | 10-20 |
| 73 | Rentsac channery loam | 5-50% | Pinyon-Juniper woodlands | <2 | Rapid | Moderate to very high | 10-20 |

CSU-1 "fragile soils" are mapped along the pipeline route; however, after observation of a topographic map it was determined that the proposed surface disturbing activities will not occur on any slopes greater than 35%. For this reason controlled surface use stipulations relating to "fragile soils" do NOT apply. The well pad and approximately eighty percent of surface disturbing activities (well pad and ~0.36 miles of access road/pipeline) will occur on soil unit number 73. The remaining twenty percent of disturbance (~0.11 miles of access road/pipeline) occurs on soil unit number 70.

*70-Redcreek-Rentsac complex* (5 to 30 percent slopes) is located on mountainsides and ridges. Areas are elongated and are 40 to 300 acres. The native vegetation is mainly pinyon and juniper trees with an understory of shrubs and grasses. Elevation is 6,000 to 7,400 feet. The average annual precipitation is 14 to 18 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 85 to 105 days. This unit is 60 percent Redcreek sandy loam and 30 percent Rentsac channery loam.

The Redcreek soil is shallow and well drained. It formed in residual and eolian material derived dominantly from sandstone. Typically, the surface layer is brown sandy loam about 4 inches thick. The next layer is brown, *calcareous* sandy loam about 7 inches thick. The underlying material is very pale brown, *calcareous* channery loam 5 inches thick. Hard sandstone is at a depth of 16 inches. Depth to hard sandstone or hard shale ranges from 10 to 20 inches. Permeability of the Redcreek soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

The Rentsac soil is shallow and well drained. It formed in residuum derived dominantly from sandstone. Typically, the upper part of the surface layer is grayish brown channery loam about 5 inches thick. The next layer is brown very channery loam about 4 inches thick. The underlying material is very pale brown extremely flaggy loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to hard sandstone or hard shale ranges from 10 to 20 inches. Permeability of the Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is medium, and the hazard of water erosion is moderate to high.

*73-Rentsac channery loam* (5 to 50 percent slopes) is a shallow, well drained soil located on ridges, foothills, and side slopes. It formed in residuum derived dominantly from calcareous sandstone. The native vegetation is mainly pinyon, juniper, brush, and grasses. Elevation is 6,000 to 7,600 feet. The average annual precipitation is 14 to 18 inches, the average annual air temperature is 42 to 45 degrees F, and the average frost-free period is 80 to 105 days. Typically, the surface layer is grayish brown channery loam about 5 inches thick. The next layer is very channery loam about 4 inches thick. The underlying material is extremely flaggy light loam 7 inches thick. Hard sandstone is at a depth of 16 inches. Depth to sandstone ranges from 10 to 20 inches. Permeability of this Rentsac soil is moderately rapid. Available water capacity is very low. Effective rooting depth is 10 to 20 inches. Runoff is rapid, and the hazard of water erosion is moderate to very high.

*Environmental Consequences of the Proposed Action:* The well pad, access road and pipeline are situated on soils which have been identified as having moderate to very high erosive potential. Improper drainage from the project areas will increase potential for overland flows accelerating erosion rates leading to soil piping, head cutting and gully formation. Removal of limited ground cover will also expose soils to erosional processes. Heavy traffic will increase soil compaction decreasing infiltration rates which in turn will also increase potential for erosive overland flows.

Leaks or spills of environmentally unfriendly substances on or near the pad may contaminate soils hindering revegetation efforts. Soils unable to support a healthy plant community will be less cohesive (due to lack of root structure) and more vulnerable to erosional processes.

*Environmental Consequences of the No Action Alternative:* None

*Mitigation*: Comply with "Gold Book" surface operating standards for constructing well pad, pipeline and access road (copies of the "Gold Book" can be obtained at the WRFO). Interim reclamation will be required as addressed in the Air and Water Quality portions of this document.

To mitigate contamination of soils and local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment (tanks, pumps, or other equipment used in handling hazardous liquids) is *suggested* to intercept such contaminants prior to contacting soils.

Complete reclamation will follow abandonment of well pad. Access road and well pad will be recontoured and 100% of disturbed surfaces will be revegetated with the suggested seed mixture as outlined in the vegetation section of this document.

*Finding on the Public Land Health Standard for upland soils*: At the present time, soils in the vicinity of the proposed action exhibit infiltration and permeability rates that are appropriate to soil type, landform, climate, and geologic processes. The proposed actions will cause decreases in both infiltration and permeability rates due to soil compaction and loss of vegetal cover. However, with proper mitigation soils health standards will continue to be met.

**VEGETATION** (includes a finding on Standard 3)

*Affected Environment*: The proposed action will occur primarily in mid seral pinyon juniper woodland.

*Environmental Consequences of the Proposed Action:* Two primary negative impacts will/could occur as a result of access road, pad and pipeline construction; 1) The 13 acres disturbed as a result of pipeline, access road and pad construction will accelerate the rate of plant community fragmentation which is presently occurring in this area of Piceance Basin. This impact is unmitigated in the short term and likely, longer. 2) In terms of plant community composition, structure and function, the principal negative impact over the long term would occur if cheatgrass or noxious weeds are allowed to establish and proliferate on the disturbed areas resulting from pipeline and access road construction.

*Environmental Consequences of the No Action Alternative:* There will be no change from the present situation.

*Mitigation*: Promptly revegetate all disturbed areas with Native Seed mix #3. Revegetation will commence immediately after construction and will not be delayed until the following fall. Debris will not be scattered on the pipeline until after seeding operations are completed.

Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the preferred method of application. To encourage forb establishment, special provisions (e.g., separate broadcast and light dragging) will be made to prevent forb seed from becoming too deeply buried during the seeding process (i.e., objective seeding depth of 1/8" to no greater than ½").

| **Native Seed Mix # 3** | | |
|---|---|---|
| Plant Species | PLS/Lb | Ecological Site |
| Western wheatgrass (Rosanna) | 2 | Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany) |
| Bluebunch wheatgrass ( Whitmar) | 2 | |
| Needle and thread | 1 | |
| Indian ricegrass (Rimrock) | 2 | |
| Fourwing saltbush (Wytana) | 1 | |
| Utah sweetvetch | 1 | |

If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Wildlife, Aquatic and Wildlife, Terrestrial)*:* Vegetation in the project area currently meets the Standard on a watershed and landscape basis and is expected to continue to meet the Standard in the future following implementation of the proposed action.

**WILDLIFE, AQUATIC** (includes a finding on Standard 3)

*Affected Environment*: Piceance Creek, separated by a minimum 3 miles of ephemeral channel from the proposed action, supports the nearest aquatic habitat. The nearest BLM-administered reach is about 7 miles downstream of this point. Stream function and morphology on these downstream reaches are heavily modified by summer-long irrigation practices, but the stream persists in supporting small populations of leopard frog, speckled dace, and flannelmouth sucker.

*Environmental Consequences of the Proposed Action:* This pad is situated on the crest of a ridge separated from the nearest aquatic system by a minimum 3 miles of ephemeral channel. Pad and road construction would have no direct impact on aquatic habitats. With the application of BMPs associated with soil erosion there is no reasonable likelihood that fugitive sediments would have any influence on the function or condition of the Piceance Creek channel or its associated aquatic values.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have any direct or indirect influence on downstream aquatic habitat.

*Mitigation*: None.

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Terrestrial): Downstream portions of Piceance Creek are private with the nearest BLM-administered reach about 7 miles downstream. Neither the proposed or no-action alternative would any effective influence on the function or condition of the Piceance Creek channel, its aquatic habitat values, or its land health status.

**WILDLIFE, TERRESTRIAL** (includes a finding on Standard 3)

*Affected Environment*: This area is encompassed by deer severe winter range that is normally occupied during the late winter and early spring months. However, snow accumulations on these relatively level and higher elevation ridgeline positions typically limit deer use after January, with subsequent spring use typically involving April through mid-May.

As prescribed by BLM during the on-site, woodlands in the project locale were surveyed for evidence of raptor nest activity by a wildlife consultant (report on file at the White River Field Office, Meeker). A small (ca. 8-inch diameter) stick nest discovered about 550' south of the pad edge and 200' from the existing access road is likely associated with a small corvid (i.e., western scrub jay). No further evidence of woodland raptor nesting was found within areas potentially influenced by pad and road development.

Non-game wildlife using this area are typical and widely distributed in extensive like habitats across the Resource Area and northwest Colorado; there are no narrowly endemic or highly specialized species known to inhabit those lands potentially influenced by this action.

*Environmental Consequences of the Proposed Action:* The proposed action represents an incremental expansion of industrial development on Magnolia's deer severe winter range. Because this well involves no additional access and is situated in a developed field, additive avoidance-related effects (i.e., behavioral avoidance and habitat disuse; increased energetic demands) during the period of big game occupation would be relatively minor. Well development and completion would be expected to overlap with the winter use period and would normally be subject to a Condition of Approval that allows activity deferral for up to 60 days during the January through April severe winter period (i.e., a semblance of big game severe winter range stipulation TL-08). Because of prolonged development timeframes (i.e., successive drilling of wells), this COA would be impractical to apply in this instance. Offsetting the effects of this proposed project on wildlife resources, including big game, this 5-well pad would substantially reduce the extent and distribution of forage and cover resources dedicated to access roads, pipelines, and pads associated with the alternate development of 5 separate well pads and reduces the cumulative effects of increasing road density and the expansion of industrial and recreational activity on these winter and spring ranges. The long-term occupation of about 4 acres of foraging area (pad and road) and temporary reductions in woody overstory on about 5 acres for the pipeline would have minor localized influence on big game forage availability, but these reductions have cumulative connotations. Final pipeline reclamation, vehicle deterrents (see below), and interim reclamation on the well pad would help offset herbaceous forage losses and accelerate the reestablishment of woody forage and cover components.

Cleared right-of-ways often support unauthorized vehicle use once reclamation is complete. Increasing road density aggravates the intensity and extent of big game issues involving avoidance (e.g., inefficient use of forage and cover resources) and harassment (e.g., increased energetic costs). The proponent will be responsible for employing the means to effectively deter subsequent vehicular travel (including ATVs) on that portion of the right-of-way that deviates from positions immediately adjacent to existing roads through the life of the project. This objective is relevant to both pipeline right-of-ways that extend west from the Piceance Creek Unit T62X-11G well and which effectively interconnect the two existing well access roads.

The proposed action would directly affect about 7 acres of predominantly mature woodland edges that lie immediately adjacent to an existing well access road and pipeline corridor and in close proximity to the incorporated well pad. Woodlands that would be most influenced by road traffic and well development (west of access road) consist of a series of small (average 5.5 acres), steeply sloped, westerly facing parcels that have only limited potential as raptor nesting

habitat. Recent nest surveys revealed no evidence of raptor nest activity within the project locale. Well development activities would likely begin prior to the beginning of the raptor nesting season. Extended drilling and completion activities associated with these wells would likely overlap the raptor nesting timeframes, but ongoing well development would deter intolerant birds from initiating nests in nearby habitats.

*Environmental Consequences of the No Action Alternative:* There would be no action authorized that would have potential to affect resident wildlife populations or associated habitat.

*Mitigation*: The use of interim reclamation techniques will be used to the extent practicable on the pad such that: 1) all available topsoil material would be used to rehabilitate recontoured cut and fill slopes and areas outside the anchors (maintaining the viability of the soils for final reclamation), 2) production facilities are located to maximize the extent of surface disturbance available for recontouring and reclamation after completion operations and through the productive life of the well (e.g., where access road enters pad), and 3) all disturbed areas are reseeded and, if necessary, effectively fenced to control livestock use once well completion activities have been finalized (this includes cut and fill slopes of roads and trial application on the roadbeds themselves).

The proponent will be responsible for employing the means to effectively deter subsequent vehicular travel (including ATVs) on that portion of the right-of-way that deviates from positions immediately adjacent to existing roads through the life of the project. This provision is applicable to both the existing and proposed pipeline right-of-ways that extend west from the Piceance Creek Unit T62X-11G well and which effectively interconnect the two existing well access roads.

*Finding on the Public Land Health Standard for plant and animal communities* (partial, see also Vegetation and Wildlife, Aquatic): On a landscape scale, the project area meets the public land health standards for terrestrial animal communities. The proposed action is considered an incremental addition to those lands dedicated to mineral development, but would not detract measurably from continued meeting of the land health standard at the landscape scale.

**OTHER NON-CRITICAL ELEMENTS:** For the following elements, only those brought forward for analysis will be addressed further.

| Non-Critical Element | NA or Not Present | Applicable or Present, No Impact | Applicable & Present and Brought Forward for Analysis |
|---|---|---|---|
| Access and Transportation | | | X |
| Cadastral Survey | X | | |
| Fire Management | | | X |
| Forest Management | | | X |
| Geology and Minerals | | | X |
| Hydrology/Water Rights | X | | |
| Law Enforcement | | X | |
| Noise | | X | |

| Non-Critical Element | NA or Not Present | Applicable or Present, No Impact | Applicable & Present and Brought Forward for Analysis |
|---|---|---|---|
| Paleontology | | | X |
| Rangeland Management | | | X |
| Realty Authorizations | | X | |
| Recreation | | | X |
| Socio-Economics | | X | |
| Visual Resources | | | X |
| Wild Horses | X | | |

**ACCESS AND TRANSPORTATION**

*Affected Environment*: The proposed action is located within an area where motorized travel is limited to existing routes.

*Environmental Consequences of the Proposed Action:* It is likely that the proposed location may exacerbate route proliferation.

*Environmental Consequences of the No Action Alternative:* None.

*Mitigation*: None.

**FIRE MANAGEMENT**

*Affected Environment*: The #T35X-2G1-G9 wells as proposed involves approximately 0.2 miles of road construction/upgrade, 0.6 miles of pipeline construction and about 5.5 acres of drill pad clearing for an approximate total of 9.67 acres of disturbance. Due to the existing tree cover of pinion and juniper, there will be a need for the operator to clear some of these trees. If not adequately treated, these trees will result in elevated hazardous fuels conditions and remain on-site for many years. These accumulations of dead material are very receptive to fire brands and spotting from wind driven fires and can greatly accelerate the rate of spread of the fire front. The road(s) associated with this project may be used by the general public for a variety of uses, including access for fire wood gathering, hunting and other dispersed recreational activities. Increased public use of an area will nearly always result in an increased potential for man-caused wildland fires.

The National Fire Plan calls for "firefighter and public safety" to be the highest priority for all fire management activities. In the pinion, juniper, and brush types common on the White River Resource Area, roads and other man-made openings are commonly used as fuel breaks or barriers to control the spread of both wildland and prescribed fires. By reducing the activity fuels created from this proposal, future fire management efforts in this area should be safer for those involved and more effective.

Additionally vegetation treatments were conducted in 2003 immediately due northwest of the proposed location. This treatment was conducted using federally appropriated funds to mitigate

potential wildfire impacts to the WREA 138 Kv powerline. The site was type converted from sub mature PJ to grassland using a hydro-ax to remove the trees and reseeded using native grasses and forbs. This site is currently very susceptive to noxious weed infestation due to the early seral state of the treatment area.

*Environmental Consequences of the Proposed Action:* The proposed action will essentially destroy 2.5 acres of treated PJ from a project that is only two years old. The project is considered a high priority project for both local governments as well as high ranking Department of Interior (DOI) officials. Due to the relative new nature of the project and the high cost per acre the proposed action will essentially negate BLM employee's time as well as dollars entrusted by the public to be spent wisely. Cumulatively Exxon's development program has in the past impacted 0.65 acres of the powerline project, this project will impact 2.5 acres, and CO-110-2006-009-EA is proposed to construct a 5.5 acre pad and associated disturbance will impact an additional 2 acres.

The soil disturbance associated with natural gas development leaves disturbed sites susceptible to weed establishment and eventual dominance without treatment and monitoring. The relative young age of the treatment directly adjacent to the proposed location makes this area also very susceptible to noxious weed establishment. Currently there are no noxious weeds present on the fuels treatment adjacent to the proposed location. The treated area was reseeded and progressing towards a healthy functioning community and weed establishment could jeopardize the seeding and overall success of the treatment. Also, using the site for excess vehicle parking, since it is devoid of trees, would be detrimental to the success of the seeding and could expose the site to weed seed from vehicles associated with the proposed action.

*Environmental Consequences of the No Action Alternative:* There would be no tree removal or disturbance which would cause significant dead fuel loading.

*Mitigation*: For the proposed action a hydro-ax or other mulching type machine must be used to remove the existing cover of trees for the pad and access road. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This would effectively breakdown the woody fuel and scatters the debris, thereby eliminating any hazardous fuel load adjacent to the new road and well pad which could hinder wildfire suppression efforts to protect the 138Kv powerline that the pad will be adjacent to.

To address the cumulative impact to the powerline project Exxon should consider a cost reimbursement program so that the BLM fuels and wildlife program can implement some off site mitigation to address the ecological change from the big sagebrush/mountain browse vegetation type to pinion-juniper. The costs would be calculated on an acre for acre basis at current 2006 costs for treatment to be determined by BLM personnel.

**FOREST MANAGEMENT**

*Affected Environment*: The well pad, access road and pipeline are within a middle-aged pinyon/juniper woodland. This stand is considered commercial based on quality production and accessibility. A portion of the well pad is within a fuel reduction project completed in 2003 to protect the powerline. Within the White River Resource Management Plan a limit of 25 acres per year for clearcutting of woodlands is permitted. These stands are also used by the local population as a source of firewood and fence posts, and are authorized under personal use permits.

*Environmental Consequences of the Proposed Action:* Under the proposed action 9.67 acres of woodland would be removed. The estimated volume of material removed is estimated at 99 cords. The removal of woodland resources is within that established within the land use plan (currently at 16 acres for 2006). Following reclamation pinions and junipers are expected to reoccupy the site and develop into a mature woodland. Establishment is expected to take up to 30 years and mature woodland would develop in 250+ years. With the mitigation listed below there would not be problems with disease/insects.

*Environmental Consequences of the No Action Alternative: There would be no impacts.*

*Mitigation*: Same as Fire Management.

**GEOLOGY AND MINERALS**

*Affected Environment*: The surface geologic formation of the well locations is Uinta and ExxonMobil's targeted zone is in the Mesaverde. During drilling potential water, oil shale, sodium, and gas zones will be encountered from surface to the targeted zone. Aquifers that will be encountered during drilling are the Perched in the Uinta, the A-groove, B-groove and the Dissolution Surface in the Green River formation. These aquifer zones along with the Wasatch formation are known for difficulties in drilling and cementing. Oil shale and sodium resources are located in the Green River formation. The bottom hole locations are located on Federal oil and Gas Leases COD-035705 and COD-035729.

*Environmental Consequences of the Proposed Action:* The cementing procedure of the proposed actions isolates the formations and will prevent the migration of gas, water, and oil between formations. This includes oil shale and coal zones. However, conventional recovery of the coals is not considered feasible at the depths that are encountered in the well. Development of this well will deplete the natural gas resources in the targeted formation

*Environmental Consequences of the No Action Alternative:* The natural gas resources in the targeted zone would not be recovered at this time.

*Mitigation*: None

**PALEONTOLOGY**

*Affected Environment*: The proposed pad location is located in an area generally mapped as the Uinta Formation (Tweto 1979) which the BLM has classified as a Condition 1 formation meaning it is know to produce scientifically important fossil resources.

*Environmental Consequences of the Proposed Action:* If it becomes necessary to excavate into the underlying rock formation to level the well pad or excavate the reserve/blooie pit there is a potential to impact scientifically important fossil resources.

*Environmental Consequences of the No Action Alternative:* There would be no new impacts to fossil resources under the No Action Alternative.

*Mitigation*: 1. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

2. A paleontological monitor shall be present prior to the initiation of all excavations into the underlying rock formation.

## RANGELAND MANAGEMENT

*Affected Environment*: The proposed action is within the Hatch Gulch allotment (06028) authorized for livestock grazing as follows:

| Allotment | | Permit # | Livestock # & Kind | | Period of Use | Percent Public Land | Public Acres | Authorized Use (AUM) |
|---|---|---|---|---|---|---|---|---|
| 06028 | Hatch Gulch | 051422 | 150 | C | 11/01-11/30 | 100 | 8583 | 148 |
| | | | 300 | C | 12/01-12/31 | 100 | | 306 |
| | | | 150 | C | 01/01-01/31 | 100 | | 153 |
| | | 051423 | 56 | C | 12/01-12/31 | 100 | | 57 |

*Environmental Consequences of the Proposed Action:* There will be a net loss of 1 AUM of forage production as a result of the proposed action.

*Environmental Consequences of the No Action Alternative:* There will be no change from the present situation.

*Mitigation*: All fences crossed by an access road to the well location, pipeline will have a cattleguard installed and maintained to BLM specifications for the lifetime of the project. All cattleguard/fence work will take place prior to well location and pipeline construction.

Any and all fences intersected by the pipeline will be braced to BLM specifications prior to cutting. A temporary wire gate will be constructed. This work will take place prior to pipeline ROW construction. A copy of the applicable BLM fence specifications will be included as part of the conditions of approval.

Reserve pit fencing will comply with BLM specifications as described in the BLM Gold Book (Fourth Edition, 2005). Reserve pit fence specifications will be included as part of the conditions of approval.

**RECREATION**

*Affected Environment*: The proposed action occurs within the White River Extensive Recreation Management Area (ERMA). BLM custodially manages the ERMA to provide for unstructured recreation activities such as hunting, dispersed camping, hiking, horseback riding, wildlife viewing and off-highway vehicle use.

The project area has been delineated a Recreation Opportunity Spectrum (ROS) class of Semi-Primitive Motorized (SPM). SPM physical and social recreation setting is typically characterized by a natural appearing environment with few administrative controls, low interaction between users but evidence of other users may be present. SPM recreation experience is characterized by a high probability of isolation from the sights and sounds of humans that offers an environment that offers challenge and risk.

Rural recreation experience is characterized by a low probability of isolation from the sights and sounds of humans.

*Environmental Consequences of the Proposed Action:* The public will lose approximately 10 acres of dispersed recreation potential while wells are in operation. The public will most likely not recreate in the vicinity of these facilities and will be dispersed elsewhere. If action coincides with hunting seasons (September through November) it will most likely disrupt the experience sought by those recreationists.

With the introduction of new well pads and roads, an increase of traffic could be expected increasing the likihood of human interactions, the sights and sounds associated with the human environment and a less naturally appearing environment.

*Environmental Consequences of the No Action Alternative:* No loss of dispersed recreation potential and no impact to hunting recreationists.

*Mitigation*: None.

**VISUAL RESOURCES**

*Affected Environment*: The proposed action would be located in an area with a VRM III classification. The objective of this class is to partially retain the existing character of the landscape. The level of change to the characteristic landscape should be moderate. Management activities may attract attention but should not dominate the view of the casual observer. Changes should repeat the basic elements found in the predominant natural features of the characteristic landscape.

*Environmental Consequences of the Proposed Action:* The proposed action would be located below the crest of a ridge on a long point that is elevated above and not visible from county road RBC 5, which would be the route traveled by a casual observer. Since the well pad would be near the top of a ridge and surrounded by pinyon/juniper woody vegetation, the production facilities should be painted Juniper Green to blend with and mimic the surrounding and distant vegetation types. The level of change to the characteristic landscape would be low and the objectives of the VRM III classification would be retained.

*Environmental Consequences of the No Action Alternative:* There would be no environmental consequences.

*Mitigation*: All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed above ground shall be painted Juniper Green within six months of installation.

**CUMULATIVE IMPACTS SUMMARY:** Cumulative impacts from oil and gas development were analyzed in the White River Resource Area PRMP/FEIS. Current development, including the actions proposed in this EA, has not exceeded the foreseeable development analyzed in the PRMP/FEIS.

**REFERENCES CITED:**

Metcalf, Sally J.
2005 Exxon-Mobil Corporation's Proposed Gas Drill Pads T75X-3G, T35X-2G, PCU 297-11B, PCU 297-10A and PCU 297-15A, Class III Cultural Resources Inventory, Rio Blanco County, Colorado. Metcalf Archaeological Consultants, Inc., Eagle, Colorado.

Topper, R., K.L. Spray, W.H. Bellis, J.L. Hamilton, and P.E. Barkmann. 2003. Groundwater Atlas of Colorado, Special Publication 53. Prepared for State of Colorado Department of Natural Resources, Division of Minerals and Geology. Colorado Geological Survey. Denver, Colorado.

Tweto, Ogden. 1979. Geologic Map of Colorado. United States Geologic Survey, Department of the Interior, Reston, Virginia.

**PERSONS / AGENCIES CONSULTED:** None

**INTERDISCIPLINARY REVIEW:**

| Name | Title | Area of Responsibility |
|---|---|---|
| Nate Dieterich | Hydrologist | Air Quality |
| Tamara Meagley | Natural Resource Specialist | Areas of Critical Environmental Concern |
| Tamara Meagley | Natural Resource Specialist | Threatened and Endangered Plant Species |
| Michael Selle | Archeologist | Cultural Resources<br>Paleontological Resources |
| Mark Hafkenschiel | Rangeland Management Specialist | Invasive, Non-Native Species, Vegetation, Rangeland Management |
| Ed Hollowed | Wildlife Biologist | Migratory Birds |
| Ed Hollowed | Wildlife Biologist | Threatened, Endangered and Sensitive Animal Species |
| Melissa Kindall | Hazmat Collateral | Wastes, Hazardous or Solid |
| Nate Dieterich | Hydrologist | Water Quality, Surface and Ground<br>Hydrology and Water Rights |
| Ed Hollowed | Wildlife Biologist | Wetlands and Riparian Zones |
| Chris Ham | Outdoor Recreation Planner | Wilderness |
| Nate Dieterich | Hydrologist | Soils |
| Ed Hollowed | Wildlife Biologist | Wildlife Terrestrial and Aquatic |
| Chris Ham | Outdoor Recreation Planner | Access and Transportation |
| Ken Holsinger | Natural Resource Specialist | Fire Management |
| Robert Fowler | Forester | Forest Management |
| Paul Daggett | Mining Engineer | Geology and Minerals |
| Penny Brown | Realty Specialist | Realty Authorizations |
| Chris Ham | Outdoor Recreation Planner | Recreation |
| Keith Whitaker | Natural Resource Specialist | Visual Resources |
| Valerie Dobrich | Natural Resource Specialist | Wild Horses |

# Finding of No Significant Impact/Decision Record (FONSI/DR)

# CO-110-2006-002-EA

**FINDING OF NO SIGNIFICANT IMPACT (FONSI)/RATIONALE:** The environmental assessment and analyzing the environmental effects of the proposed action have been reviewed. The approved mitigation measures (listed below) result in a Finding of No Significant Impact on the human environment. Therefore, an environmental impact statement is not necessary to further analyze the environmental effects of the proposed action.

**DECISION/RATIONALE**: It is my decision to approve the proposed action with the mitigation listed below. The proposed action is in concert with the objectives of the White River ROD/RMP in that they would allow development of federal oil and gas resources in a manner that provides reasonable protection for other resource values. Protection for other resource values will be assured by implementation of the mitigation measures described below and attached to the APDs as Conditions of Approval

**MITIGATION MEASURES**:

1. The operator will be responsible for complying with all local, state, and federal air quality regulations as well as providing documentation to the BLM that they have done so. To minimize production of fugitive particulate matter, vehicle speeds must not exceed 15 mph *or* dust plume must not be visible at appropriate designated speeds for road design. In addition, the application of a BLM approved dust suppressant (e.g. water or chemical stabilization methods) will be required during dry periods when dust plumes are visible at speeds less than or equal to 15 mph. Surfacing the roadway with gravels will also help mitigate production of fugitive particulate matter.

2. To reduce production of fugitive particulate matter originating from well pads and associated stockpiled soils (long term storage) interim reclamation will be required. Interim reclamation will consist of excess stockpiled soils associated with pad construction being pulled back over the portion of the well pad not being utilized for production facilities and access. Portions of the well pad undergoing interim reclamation will be returned to grade (as close as possible), promptly re-seeded, and biodegradable fabrics will be utilized on slopes exceeding 5%.

3. If interim reclamation is not practical (e.g. completion of drilling operation will require an extended period time (multiple well pads)), stockpiled topsoil will be covered with biodegradable fabrics such as (but not limited to) jute netting and seeded with the appropriated seed mixture. Furthermore, soils stockpiled for short durations (e.g. during road/pipeline

construction/maintenance) will be wetted during dry periods to reduce production of fugitive particulate matter.

4. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing historic or archaeological sites, or for collecting artifacts. If historic or archaeological materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear eligible for the National Register of Historic Places
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not necessary)
- a timeframe for the AO to complete an expedited review under 36 CFR 800-11 to confirm, through the State Historic Preservation Officer, that the findings of the AO are correct and that mitigation is appropriate.

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

5. Pursuant to 43 CFR 10.4(g) the holder of this authorization must notify the AO, by telephone, with written confirmation, immediately upon the discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Further, pursuant to 43 CFR 10.4(c) and (d), you must stop activities in the vicinity of the discovery and protect it for 30 days or until notified to proceed by the authorized officer.

6. The operator will be required to monitor the project area for a minimum of three years post disturbance and eradicate all noxious and invasive species which occur on site using materials and methods approved in advance by the Authorized Officer.

7. It will be the responsibility of the operator to effectively preclude migratory bird access to, or contact with, reserve pit contents that possess toxic properties (i.e., through ingestion or exposure) or have potential to compromise the water-repellent properties of birds' plumage. Exclusion methods may include netting, the use of "bird-balls", or other alternative methods that effectively eliminate migratory bird contact with pit contents and meet BLM's approval. It will be the responsibility of the operator to notify the BLM of the method that will be used to eliminate migratory bird use two weeks prior to initiation of drilling activities. The BLM-approved method will be applied within 24 hours after drilling activities have begun. All lethal and non-lethal events that involve migratory birds will be reported to a White River Field Office Petroleum Engineer Technician immediately.

8. The applicant shall be required to collect and properly dispose of any solid wastes generated by the proposed actions.

9. The operator will be responsible for complying with all local, state, and federal water quality regulations (such as but not limited to Phase I Storm Water Permit). The operator will also be required to provide the BLM with documentation that all required permits were obtained.

10. All surface disturbing activities will strictly adhere to "Gold Book" surface operating standards for oil and gas exploration and development (copies of the "Gold Book" can be obtained at the WRFO). CMPs are not recommended on slopes less than 10% and will NOT be used as drainage relief structures for stream crossings/gullies or to drain inside drain ditches on slopes less than 3%. Based on the nature of the affected soils, drain dips will be utilized in place of CMPs in these locations. Energy dissipaters such as large gravels/small cobbles will be used at culvert and drainage dip outlets to minimize additional erosion. To mitigate water being channelized down the roadway, all activity must stop when soils or road surfaces become saturated to a depth of three inches. Mud blading will be prohibited in attempts to reduce further soil displacement. Furthermore, following abandonment of the well pad all disturbed surfaces will be recontoured to the original grade promptly covered with a sufficient amount of woody debris (if available) and seeded with the appropriate seed mixture as outlined in the vegetation section of this document.

11. To mitigate surface erosion at the well pad, interim reclamation will be required as outlined in the Air Quality mitigation section above.

12. Shallow aquifers shall be protected from hydrofracturing and the production of oil and gas by installation and cementing of surface and intermediate casing. Any groundwater produced from the Mesaverde Formation will be hauled off and disposed of due to poor water quality and therefore preventing adverse impacts to surface water. Environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of spill-guards (or equivalent spill prevention equipment) under and around pumping equipment is suggested to intercept such contaminants prior to contacting soils. Furthermore, all pits shall be lined and all wastes associated with construction and drilling will be properly treated and disposed of.

13. Comply with "Gold Book" surface operating standards for constructing well pad, pipeline and access road (copies of the "Gold Book" can be obtained at the WRFO). Interim reclamation will be required as addressed in the Air and Water Quality portions of this document.

14. To mitigate contamination of soils and local ground water, environmentally unfriendly substances (e.g. diesel) must not be allowed to contact soils. The use of impermeable matting under equipment (tanks, pumps, or other equipment used in handling hazardous liquids) is *suggested* to intercept such contaminants prior to contacting soils.

15. Complete reclamation will follow abandonment of well pad. Access road and well pad will be recontoured and 100% of disturbed surfaces will be revegetated with the suggested seed mixture as outlined in the vegetation section of this document.

16. Promptly revegetate all disturbed areas with Native Seed mix #3. Revegetation will commence immediately after construction and will not be delayed until the following fall. Debris will not be scattered on the pipeline until after seeding operations are completed. Seed mixture rates are Pure Live Seed (PLS) pounds per acre. Drill seeding is the preferred method of application. To encourage forb establishment, special provisions (e.g., separate broadcast and light dragging) will be made to prevent forb seed from becoming too deeply buried during the seeding process (i.e., objective seeding depth of 1/8" to no greater than ½").

| **Native Seed Mix # 3** | | |
|---|---|---|
| Plant Species | PLS/Lb | Ecological Site |
| Western wheatgrass (Rosanna)<br>Bluebunch wheatgrass ( Whitmar)<br>Needle and thread<br>Indian ricegrass (Rimrock)<br>Fourwing saltbush (Wytana)<br>Utah sweetvetch | 2<br>2<br>1<br>2<br>1<br>1 | Gravelly 10"-14", Pinyon/Juniper Woodland, Stony Foothills, 147 (Mountain Mahogany) |

17. If construction/development occurs between April 15 and November 15, the operator will be required to water or surface access roads to reduce airborne dust and damage to roadside vegetation communities.

18. The use of interim reclamation techniques will be used to the extent practicable on the pad such that: 1) all available topsoil material would be used to rehabilitate recontoured cut and fill slopes and areas outside the anchors (maintaining the viability of the soils for final reclamation), 2) production facilities are located to maximize the extent of surface disturbance available for recontouring and reclamation after completion operations and through the productive life of the well (e.g., where access road enters pad), and 3) all disturbed areas are reseeded and, if necessary, effectively fenced to control livestock use once well completion activities have been finalized (this includes cut and fill slopes of roads and trial application on the roadbeds themselves).

19. The proponent will be responsible for employing the means to effectively deter subsequent vehicular travel (including ATVs) on that portion of the right-of-way that deviates from positions immediately adjacent to existing roads through the life of the project. This provision is applicable to both the existing and proposed pipeline right-of-ways that extend west from the Piceance Creek Unit T62X-11G well and which effectively interconnect the two existing well access roads.

20. For the proposed action a hydro-ax or other mulching type machine must be used to remove the existing cover of trees for the pad and access road. The machines are capable of shredding trees up to 12" in diameter and 15' tall as well as mowing brush like a conventional brush beater. It generally leaves small branches and pieces of wood from pencil size up to bowling ball size. The mulch is evenly scattered across the surface and the tires or tracks distribute the weight of the equipment. This would effectively breakdown the woody fuel and scatters the debris, thereby eliminating any hazardous fuel load adjacent to the new road and well pad which could hinder wildfire suppression efforts to protect the 138Kv powerline that the pad will be adjacent to.

21. To address the cumulative impact to the powerline project Exxon should consider a cost reimbursement program so that the BLM fuels and wildlife program can implement some off site mitigation to address the ecological change from the big sagebrush/mountain browse vegetation type to pinion-juniper. The costs would be calculated on an acre for acre basis at current 2006 costs for treatment to be determined by BLM personnel.

22. The operator is responsible for informing all persons who are associated with the project operations that they will be subject to prosecution for knowingly disturbing paleontological sites, or for collecting fossils. If fossil materials are uncovered during any project or construction activities, the operator is to immediately stop activities in the immediate area of the find that might further disturb such materials, and immediately contact the authorized officer (AO). Within five working days the AO will inform the operator as to:

- whether the materials appear to be of noteworthy scientific interest
- the mitigation measures the operator will likely have to undertake before the site can be used (assuming in situ preservation is not feasible)

If the operator wishes, at any time, to relocate activities to avoid the expense of mitigation and/or the delays associated with this process, the AO will assume responsibility for whatever recordation and stabilization of the exposed materials may be required. Otherwise, the operator will be responsible for mitigation cost. The AO will provide technical and procedural guidelines for the conduct of mitigation. Upon verification from the AO that the required mitigation has been completed, the operator will then be allowed to resume construction.

23. A paleontological monitor shall be present prior to the initiation of all excavations into the underlying rock formation.

24. Any and all fences intersected by the pipeline will be braced to BLM specifications prior to cutting. A temporary wire gate will be constructed. This work will take place prior to pipeline ROW construction. A copy of the applicable BLM fence specifications will be included as part of the conditions of approval.

25. Reserve pit fencing will comply with BLM specifications as described in the BLM Gold Book (Fourth Edition, 2005). Reserve pit fence specifications will be included as part of the conditions of approval.

26. All permanent (onsite for six [6] months or longer) structures, facilities and equipment placed above ground shall be painted Juniper Green within six months of installation.

27. All fences crossed by an access road to the well location, pipeline will have a cattleguard installed and maintained to BLM specifications for the lifetime of the project. All cattleguard/fence work will take place prior to well location and pipeline construction.

**NAME OF PREPARER**: Keith Whitaker

**NAME OF ENVIRONMENTAL COORDINATOR**: Caroline P. Hollowed

**SIGNATURE OF AUTHORIZED OFFICIAL**: _____
Field Manager

**DATE SIGNED**: 3/2/06

**ATTACHMENTS**: Location Map of the proposed action



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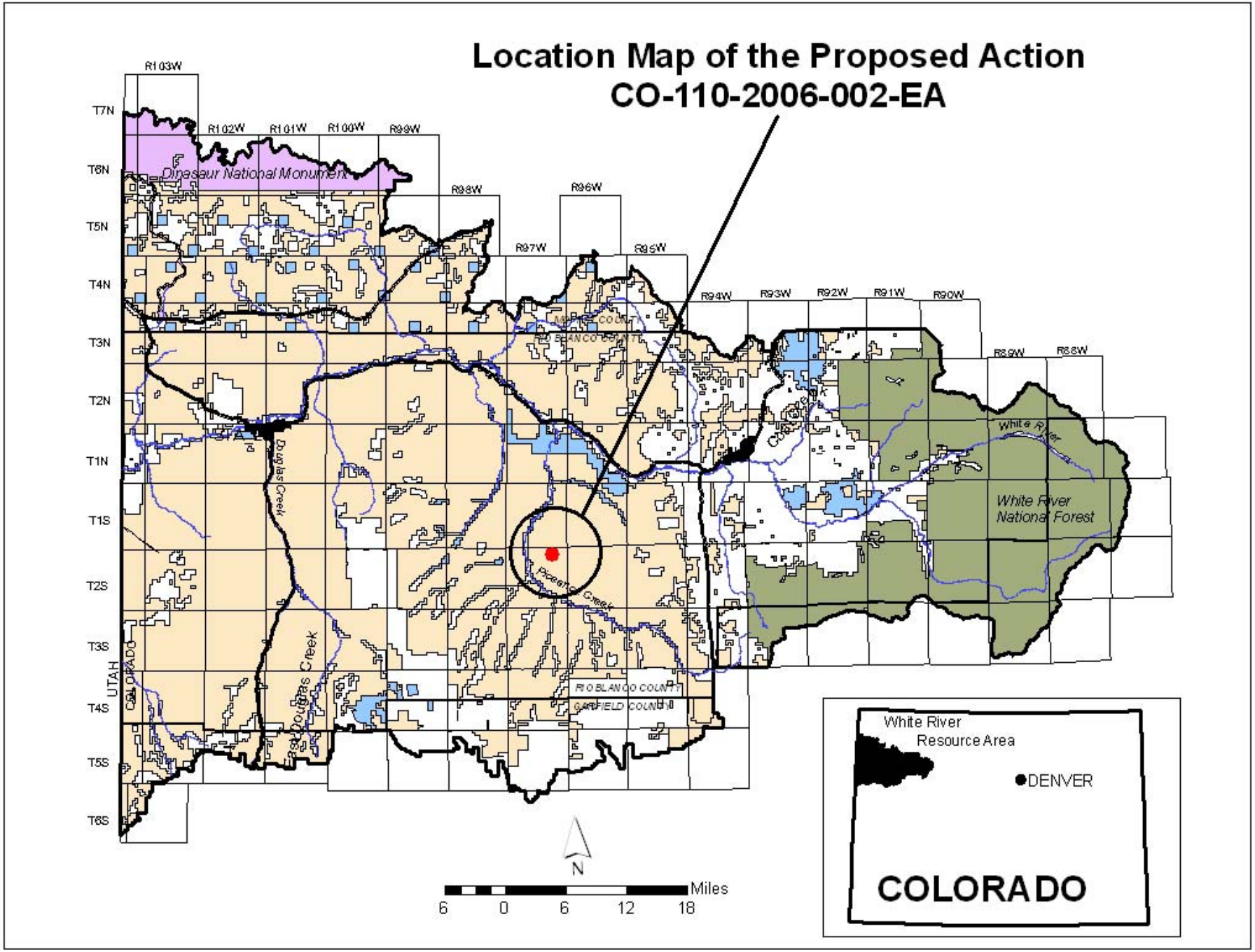
Location Map of the Proposed Action
CO-110-2006-002-EA
R103W
R102W
R101W
R100W
R99W
R98W
R97W
R96W
R95W
R94W
R93W
R92W
R91W
R90W
R89W
R88W
T7N
T6N
T5N
T4N
T3N
T2N
T1N
T1S
T2S
T3S
T4S
T5S
T6S
Dinosaur National Monument
RIO BLANCO COUNTY
GARFIELD COUNTY
Douglas Creek
Piceance Creek
White River
White River National Forest
UTAH
COLORADO
N
Miles
6 0 6 12 18
White River Resource Area
DENVER
COLORADO